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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,732

06/30/2006

Klaus Finkenzeller

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EXAMINER

CURTIS III, CHARLES G

ART UNIT

PAPER NUMBER

2612

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,732	<b>Applicant(s)</b> FINKENZELLER, KLAUS	
	<b>Examiner</b> Charles G. Curtis III	<b>Art Unit</b> 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/25/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because it lacks section headings as required by 37 CFR 1.77(b) (see below). Appropriate correction is required.

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Art Unit: 2612

***Drawings***

3. The drawings are objected to because the drawing sheets are not numbered as required by 37 CFR 1.84(t). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-14** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2612

6. Claim 1 recites the limitation "the data processing component" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Therefore, claims 2-14 depending therefrom are also rejected.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 1-6, 8, 9, 12 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuermann (U.S. Patent No. 5,287,112) in view of Friedman et al. (hereinafter "Friedman" - U.S. Patent No. 6,593,845).

Regarding claim 1, Schuermann discloses a communication apparatus for setting up a data connection between intelligent devices, comprising:

- a transmission oscillator (resonant circuit 28) for carrying out a contactless data exchange, said oscillator including a coil (Column 4 Lines 42-44 and 50-52 );

Art Unit: 2612

- a communication element (control circuit 16) which is connected to the coil and the data processing component of an intelligent device and which emits search signals via the coil to receive a response from another intelligent device (Column 3 Lines 46-54);

Schuermann does not disclose:

- a measuring device for monitoring a property of the transmission oscillator which outputs a control signal when ascertaining a change of the monitored property; and
- a switching apparatus which is connected to the measuring device and the communication element and which switches on the communication element when it has received a control signal from the measuring device.

However, the preceding limitations are known in the art of communications. Friedman discloses an RF tag with a wake-up circuit (Figure 2) wherein a measuring device (comprising RF detect circuit 32) monitors for an interrogating signal and actuates a switch (flip flop 44) to power on the tag when a valid interrogating signal is detected (Column 6 Lines 17-40).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schuermann with Friedman as the suggestion lies in Friedman that the RF detect circuit can be part of an RF receiver/transmitter (i.e. coupled with the transmission oscillator; Column 5 Lines 8-11) and switching on the transponder/tag only when needed prolongs battery life and/or saves energy.

Regarding claim 2, Schuermann in view of Friedman teaches the apparatus of claim 1 as discussed above. Schuermann further discloses an assembly that is switchable to the transmission oscillator via a switch (the tuning circuit consisting of capacitor 56 and resistor 58 connects to resonant circuit 34 via switch 54 to form new resonant circuit 60), said assembly

Art Unit: 2612

causing an increase in the bandwidth of the oscillating circuit (Column 5 Lines 47-59; one of ordinary skill in the art could combine this arrangement from the transponder with the interrogator since it is known in the art that interrogators can act as transponders and receive data from other transponders).

Regarding claim 3, Schuermann in view of Friedman teaches the apparatus of claim 2 as discussed above. Schuermann further discloses that the assembly is a resistive element (the tuning circuit is a resistive element since it comprises a resistor).

Regarding claim 4, Schuermann in view of Friedman teaches the apparatus of claim 1 as discussed above. Schuermann further discloses including an assembly (capacitor 52) switchable to the transmission oscillator via a switch (switch 50), said assembly causing a change in the resonant frequency of the transmission oscillator (Column 5 Lines 13-19).

Regarding claim 5, Schuermann in view of Friedman teaches the apparatus of claim 4 as discussed above. Schuermann further discloses that the assembly causes a reduction in the resonant frequency (Column 5 Lines 13-15).

Regarding claim 6, Schuermann in view of Friedman teaches the apparatus of claim 4 as discussed above. Schuermann further discloses that that the assembly comprises a capacitor (see above).

Regarding claim 8, Schuermann in view of Friedman teaches the apparatus of claim 1 as discussed above. Friedman further discloses that the switching apparatus has a time controller (oscillator 36 and comparator 38) for cyclically switching the measuring device on and off (Column 5 Lines 16-24 and Column 6 Lines 36-40).

Regarding claim 9, Schuermann in view of Friedman teaches the apparatus of claim 8 as

Art Unit: 2612

discussed above. Friedman further discloses that the time controller keeps the on state of the measuring device shorter than the off state (Column 5 Lines 16-18 and Column 6 Lines 36-40).

Regarding claim 12, Schuermann in view of Friedman teaches the apparatus of claim 8 as discussed above. While the combination does not expressly disclose that when the intelligent device is switched on, the communication element is initially on and the measuring device off, this is an obvious matter of design choice (the specification of the present application does not seem to give a reason for or an advantage to having this arrangement), which does not patentably distinguish the invention over the prior art.

Regarding claim 15, Schuermann discloses a communication element designed to use a coil, which is part of a transmission oscillator, for automatically setting up a data connection with an intelligent device likewise having a communication element and a coil (see regarding claim 1 above). Schuermann does not disclose the method steps of:

- monitoring a parameter of the transmission oscillator by means of a measuring device;
- producing a control signal upon the occurrence of a change in the monitored property; and
- switching on the communication element by a switching apparatus due in response to the control signal.

However, the preceding limitations are known in the art of communications. Friedman discloses an RF tag with a wake-up circuit (Figure 2) wherein a measuring device (comprising RF detect circuit 32) monitors for an interrogating signal and actuates a switch (flip flop 44) to power on the tag when a valid interrogating signal is detected (Column 6 Lines 17-40).



Art Unit: 2612

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Schuermann with Friedman as the suggestion lies in Friedman that the RF detect circuit can be part of an RF receiver/transmitter (i.e. coupled with the transmission oscillator; Column 5 Lines 8-11) and switching on the transponder/tag only when needed prolongs battery life and/or saves energy.

10. **Claims 7 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuermann in view of Friedman as applied to claim 1 above, and further in view of Watkins (U.S. Patent No. 6,317,027).

Regarding claim 7, Schuermann in view of Friedman teaches the apparatus of claim 1 as discussed above. The combination does not teach that the measuring frequency of the measuring device is sweepable over a predetermined frequency domain.

However, the preceding limitation is known in the art of communications. Watkins discloses an auto-tuning RFID reader, wherein a range of frequencies are scanned when searching for devices/transponders (Figure 2 and Column 3 Lines 44-62). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the apparatus of Schuermann in view of Friedman with the addition of sweeping over a frequency range as the motivation lies in Watkins that off-frequency tags/transponders can be more reliably detected (Column 2 Lines 13-23).

Regarding claim 16, Schuermann in view of Friedman teaches the method of claim 16 as discussed above. The combination does not teach that the measuring frequency of the measuring unit is swept over a given frequency domain during the monitoring of the property.

Art Unit: 2612

However, the preceding limitation is known in the art of communications. Watkins discloses an auto-tuning RFID reader, wherein a range of frequencies are scanned when searching for devices/transponders (Figure 2 and Column 3 Lines 44-62). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the method of Schuermann in view of Friedman with the addition of sweeping over a frequency range as the motivation lies in Watkins that off-frequency tags/transponders can be more reliably detected (Column 2 Lines 13-23).

11. **Claims 10 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuermann in view of Friedman as applied to claim 8 above, and further in view of Nichols et al. (hereinafter “Nichols” – U.S. Patent No. 5,319,569).

Regarding claim 10, the combination of Schuermann in view of Friedman teaches the apparatus of claim 8 as discussed above. The combination does not disclose that the measuring device stores a measuring value obtained during a cyclical on phase.

However, the preceding limitation is known in the art of communications. Nichols discloses a method and device for averaging signal measurements, including frequency and phase, wherein a measured value is stored and ultimately averaged with other values (Figure 6 and Column 7 Lines 3-32). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the storing and averaging method of Nichols with the apparatus of Schuermann in view of Friedman as the motivation lies in Nichols that signal averaging is well-known practice in the art of communications to reduce the impact of noise on signal measurements and to establish a baseline (Column 1 Lines 28-34).

Art Unit: 2612

Regarding claim 11, Schuermann in view of Friedman and further in view of Nichols teaches the apparatus of claim 10 as discussed above. The combination further teaches that the measuring device emits a control signal to the switching apparatus when a measuring value deviates from the average of the measuring values stored with the previous on phases (Friedman discloses using a threshold value with the RF detect circuit (e.g. Column 6 Lines 32-36), and it would be obvious to use the average value of Nichols to define this threshold value since the average value represents a baseline when no other devices are present - i.e. when the communication element should be off - and deviating from this value means another device is in range and that the element should be switched on).

12. **Claims 13 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuermann in view of Friedman as applied to claim 1 above, and further in view of Flaxl (U.S. Patent No. 5,491,715).

Regarding claim 13, the combination of Schuermann in view of Friedman teaches the apparatus of claim 1 as discussed above. The combination does not disclose that the measuring device has a first oscillator device coupled at least temporarily with the coil for producing a first oscillation signal, and a second oscillator device for producing a second oscillation signal.

However, the preceding is known in the art of communications. Flaxl discloses an antenna tuning method and circuit, wherein a first oscillator device (antenna resonance circuit 18) and a second oscillator device (osc/xmit circuitry 44) are fed into a phase comparator to perform adjustments to the device based on feedback (Figure 7 and Column 5 Line 33 - Column 4 Line 6). It would have been obvious to one of ordinary skill in the art at the time the invention

Art Unit: 2612

was made to combine the apparatus of Schuermann in view of Friedman with the circuit disclosed in Flaxl as the phase comparison circuit in Flaxl can be used to ascertain a change in the signal from the coil, which is a way of monitoring for an interrogating signal as done by the RF detect circuit in Friedman (i.e. the RF detect circuit in Friedman could be implemented as the phase comparison circuit of Flaxl).

Regarding claim 14, Schuermann in view of Friedman and further in view of Flaxl teaches the apparatus of claim 13 as discussed above. The combination further teaches producing the control signal for the switching apparatus on the basis of a phase relation between the first and second oscillation signals or signals derived therefrom (in Flaxl, the phase comparator 60 outputs a signal to the control unit 50 which adjusts the antenna resonance circuit 18; as discussed above, the phase comparator circuit with resulting control signal could be used as the RF detect circuit of Friedman).

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Rotzoll (U.S. Patent No. 5,790,946) discloses a wake up device for a communications system.
- Finkenzeller et al. (U.S. Patent No. 7,209,014) – this commonly assigned patent with a common inventor discloses a switching device with similar subject matter to the present application.
- Orthmann et al. (U.S. Patent No. 5,489,908) discloses an apparatus and method for

Art Unit: 2612

identifying multiple transponders.

- Lanzl et al. (U.S. Patent No. 6,353,406) discloses a dual mode tracking system.
- Heide et al. (U.S. Patent No. 6,894,572) discloses a device for producing an oscillator signal in a wireless tag.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles G. Curtis III whose telephone number is 571-270-7493. The examiner can normally be reached on Monday - Friday 7:30 AM - 4:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Curtis III/

/Daniel Wu/  
Supervisory Patent Examiner, Art Unit 2612